

5. (Amended) Membranes according to claim 1, wherein the porous support is formed by (per)fluoropolymers, preferably PTFE, still more preferably bistretched PTFE.

6. (Amended) Membranes according to claim 1, wherein the ionomers are (per)fluorinated polymers and they preferably have SO₃H and/or -COOH, preferably SO₃H, functionality, and an equivalent weight such as to result amorphous.

9. (Amended) Membranes according to claim 7, wherein the fluorinated monomers of type (B) are selected from the following:

- F₂C=CF-O-CF₂-CF₂-SO₂F;
- F₂C=CF-O-[CF₂-CXF-O]_n-CF₂-CF₂-SO₂F

wherein X = Cl, F or CF₃; n = 1-10;

- F₂C=CF-O-CF₂-CF₂-CF₂-SO₂F
- F₂C=CF-Ar-SO₂F wherein Ar is an aryl ring;
- F₂C=CF-O-CF₂-CF₂-CF₂-COF
- F₂C=CF-O-[CF₂-CXF-O]_n-CF₂-CFX-COF

wherein X = Cl, F or CF₃; n = 1-10.

10. (Amended) Membranes according to claim 1, wherein the ionomers contain from 0.01 to 5% by moles of monomeric units deriving from a bis-olefin of formula:



wherein:

m = 2-10, preferably 4-8;

R₁, R₂, R₅, R₆, equal to or different from each other, are H or C₁ - C₅ alkyl groups.

11. (Amended) Membranes according to claim 1, wherein the ionomers comprise:

- monomeric units deriving from TFE;
- monomeric units deriving from CF₂=CF-O-CF₂CF₂SO₂F;
- monomeric units deriving from the bis-olefin of formula (I);
- iodine atoms in end position.

12. (Amended) Membranes according to claim 1, wherein the amorphous ionomer shows a substantial absence of crystallinity.

13. (Amended) Membranes according to claim 1, wherein the amorphous ionomer has a residual crystallinity lower than 5%, preferably lower than 1%.

14. (Amended) Membranes according to claim 1, wherein the (per)fluorinated ionomers are crosslinked.

15. (Amended) Membranes according to claim 1, containing one or more amorphous or crystalline (per)fluoropolymers, the amorphous ones being different from the ionomer used in the membrane.

17. (Amended) Use of the membranes according to claim 1 in separation processes, preferably in microfiltration and ultrafiltration processes of aqueous solutions, and in pervaporation processes.

18. (Amended) Use according to claim 17, wherein the membranes have pores partially or totally occluded to gases, and contain an ionomer amount higher than about 30% by weight, and are used in iperfiltration and reverse osmosis processes.

19. (Amended) A process for preparing hydrophilic porous membranes according to claim 1, comprising a porous support formed by a (per)fluorinated polymer, and amorphous (per)fluorinated ionomers containing hydrophilic groups, preferably having $-SO_3H$ or $-COOH$ functionality, said process comprising the following steps:

- a) impregnation of the porous support formed by the (per)fluorinated polymer, with a (per)fluorinated ionomer having hydrolysable groups, preferably $-SO_2F$, $-COOR$, $-COF$, wherein R is a C_1 - C_{20} alkyl radical or a C_6 - C_{20} aryl radical, using a solution of the ionomeric compound in fluorinated organic solvent at a concentration in the range 1-20% by weight, preferably 4-20% by weight till obtaining a membrane having the pores substantially filled by the ionomeric solution, the impregnation is carried out at temperatures comprised between the room temperature and $120^\circ C$, preferably between $15^\circ C$ and $40^\circ C$; the so impregnated membrane is subjected to thermal treatment at temperatures from 50° to $200^\circ C$, preferably from 120° to $160^\circ C$ till substantial removal of the solvent and

obtainment of a substantially transparent membrane, optionally step a) is repeated until the membrane appears substantially transparent;

- b) treatment of the membrane obtained in a) with inorganic strong, preferably aqueous, alkali, i.e. bases which are completely dissociated in water, to obtain the conversion of the functional groups into hydrophilic groups, preferably from $-\text{SO}_2\text{F}$ into $-\text{SO}_3^-$, and of the $-\text{COOR}$, $-\text{COF}$ groups into $-\text{COO}^-$ groups;
- c) treatment of the membrane obtained in b) with inorganic strong acids, i.e. acids which are completely dissociated in aqueous solution, obtaining the (per)fluorinated ionomer in acid hydrophilic form;
- d) optionally treatment with water at temperatures in the range 50°C - 100°C , in case repeated, until removal of the ionomer in excess and neutral pH of the washing waters.

21. (Amended) A process according to claim 19, wherein in step b) the used strong alkalis are the hydroxides of the Group Ia metals.

22. (Amended) A process according to claim 19, wherein at the end of step b) washings with water are carried out until a neutral pH of the washing waters is obtained.

23. (Amended) A process according to claim 19, wherein the ionomer is crosslinked by adding to the impregnation solution a) crosslinking agents.